UNITED STATES PATENT AND TRADEMARK OFFICE

NOTICE OF ALLOWANCE AND FEE(S) DUE

45112	7590	04/06/2009

Kunzler & McKenzie
8 EAST BROADWAY
SUITE 600
SALT LAKE CITY, UT 84111

EXAMINER
BROPHY, MATTHEW J

ART UNIT	PAPER NUMBER
2191	

DATE MAILED: 04/06/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,203	12/08/2005	Stephen James Todd	GB920030063US1	3212

TITLE OF INVENTION: METHOD FOR PROCESSING A QUEUE OF MESSAGES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$300	$0	$1810	07/06/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: <u>Mail</u>   Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or <u>Fax</u>   (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)	Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

45112   7590   04/06/2009

Kunzler & McKenzie
8 EAST BROADWAY
SUITE 600
SALT LAKE CITY, UT 84111

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

_____ (Depositor's name)

_____ (Signature)

_____ (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,203	12/08/2005	Stephen James Todd	GB920030063US1	3212

TITLE OF INVENTION: METHOD FOR PROCESSING A QUEUE OF MESSAGES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$300	$0	$1810	07/06/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
BROPHY, MATTHEW J	2191	717-168000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE   (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent):   ☐ Individual   ☐ Corporation or other private group entity   ☐ Government

4a. The following fee(s) are submitted:
☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)
☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.
☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____   Date _____

Typed or printed name _____   Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.   OMB 0651-0033   U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,203	12/08/2005	Stephen James Todd	GB920030063US1	3212

			EXAMINER
45112	7590	04/06/2009	BROPHY, MATTHEW J

Kunzler & McKenzie
8 EAST BROADWAY
SUITE 600
SALT LAKE CITY, UT 84111

ART UNIT	PAPER NUMBER
2191	

DATE MAILED: 04/06/2009

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 401 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 401 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

	Application No.	Applicant(s)
Notice of Allowability	10/560,203	TODD, STEPHEN JAMES
	Examiner	Art Unit	
	MATTHEW J. BROPHY	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *amendment filed 6/11/2008*.

2. ☒ The allowed claim(s) is/are *1,3-5,7,8, and 19, 21-29 renumbered 1-16*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some* c) ☐ None of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____.

DETAILED ACTION

1.   The Action is in response to RCE filed January 15, 2009

EXAMINER'S AMENDMENT

2.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

        Authorization for this examiner's amendment was given in a telephone interview

with David McKenzie on March 24, 2009.

Amendments to the claims:

1.

(Previously Presented) A method for processing a queue of messages, each message

representing at least one request for an update to a database, the method comprising:

browsing messages of a work queue for an update request, the browsing

conducted by way of a processor in communication with a memory storing

the work queue, the update request queued at least a predetermined

number of messages ahead of a currently executing database request, the

work queue comprising a combination of update requests and database

requests received for a database management system (DBMS);

identifying the update request from a browsed message in the work queue;

sending a pretend update request to the DBMS responsible for the database which

is to be updated, the pretend update request derived from the update

request;

translating the pretend update request into a prefetch request comprising an

indication that directs the DBMS to not execute an update operation, but

instead to prefetch data that will be required when the update request is

processed; and

wherein the prefetch request has a predetermined form comprising at least an

identifier and the method further comprises,

retaining the predetermined form of the prefetch

request;

associating the identifier with the retained predetermined form in order that the

predetermined form can be identified and used in subsequent performance of a real

update request, such that the retained predetermined form is used by the DBMS in

place of parsing the real update request; and

returning the identifier in response to the pretend update request.

2. (Cancelled)

3.(Original) The method of claim 1, further comprising initiating a real update request by

destructively getting a message from a queue comprising the update request, the real

update request using prefetched data.

4. (Original) The method of claim 3, wherein initiating a real update request is performed

by a master thread and browsing a message is performed by one or more read ahead

threads.

5. (Previously Presented) The method of claim 4, wherein processing of the master

thread is maintained behind the read ahead thread by a predetermined number of

messages.

6. (Cancelled)

7. (Previously Presented) The method of claim 1 further comprising:

associating the pretend update request with an identifier by the DBMS;

receiving the identifier from the DBMS; and

issuing the real update request by sending the identifier with the update request.

8. (Previously Presented) The method of claim 1 further comprising informing a memory

manager that the prefetched data used may be discarded from memory subsequent to

the use of the prefetched data in the processing of a-the real update request.

9. - 18. (Cancelled)

19. (Previously Presented) A computer implemented method for facilitating database

performance by pre-processing update requests to a database management system

(DBMS) for a queue of messages, comprising:

executing a computer program product on a processor in communication with a

memory, the computer program product configured to:

receive an update request at the DBMS;

receive an indication at the DBMS indicating that the update

request is a pretend update request that directs the DBMS

to not execute the update but instead to prefetch data for the

update request;

translate the pretend update request into a prefetch request

comprising an indication that directs the DBMS to not

execute the update operation, but instead to prefetch data

that will be required when the update request is processed; prefetch required data

based on the prefetch request; and receiving a real update request at the DBMS;

executing the real update request using the prefetched data;

informing a memory manager that the prefetched data may be discarded from memory

subsequent to the use of the prefetched data in the processing of a real update request;

and

wherein the prefetch request has a predetermined form comprising at least an

identifier and the method further comprises,

retaining the predetermined form of the prefetch request;

associating the identifier with the retained predetermined form in order that the

predetermined form can be identified and used in subsequent performance of a real

update request, such that retained predetermined form is used by

the DBMS in place of parsing the real update request; and returning the identifier in

response to the pretend update request.

20. (Cancelled)

21. (Currently Amended) A computer program product for pre-processing at a database

management system (DBMS) of update requests to a database controlled by the

DBMS, the computer program

product comprising:

<u>a processor in communication with a memory</u>

computer usable program code for receiving an update request at the DBMS, the

computer usable program code executed by a processor in communication with a

memory storing the computer usable program code, the update request queued at least

a predetermined number of messages ahead of a currently executing database request,

the work queue comprising a combination of update requests and database requests

received for the database management system (DBMS);

computer usable program code for receiving an indication at the DBMS indicating that

the update request is a pretend update request that directs the DBMS to not execute an

update request but instead to prefetch data for the update request; computer usable

program code for translating the pretend update request into a prefetch request;

computer usable program code for prefetching required data based on the prefetch

request, the

prefetched data required for when the update request is processed; and

wherein the prefetch request has a predetermined form comprising at least an identifier

and the

computer program product further comprises,

computer usable program code for retaining the predetermined form of the prefetch

request;

computer usable program code for associating the identifier with the retained

predetermined form in order that the predetermined form can be identified and used in

subsequent performance of a real update request, such that the retained

predetermined form is used by the DBMS in place of parsing the real update request;

and

computer usable program code for returning the identifier in response to the pretend

update request.

22. (Previously Presented) The computer program product of claim 21 further

comprising computer usable program code for receiving the real update request at the

DBMS and computer usable program code for executing the real update request using

previously prefetched data.

23. (Previously Presented) The computer program product of claim 21 further

comprising computer usable program code for receiving the identifier with the real

update request, and computer usable program code for using the predetermined form

associated with the identifier in performance of the real update request.

24. (Previously Presented) The computer program product of claim 21 further

comprising computer usable program code for informing a memory manager that the

prefetched data may be discarded from memory subsequent to the use of the

prefetched data in the processing of the real update request.

25. (Previously Presented) A system for processing a queue of messages, each

message representing at least one request for an update to a database, the system

comprising:

a processor in communication with a memory comprising,

computer usable program code for browsing unexecuted messages of a work queue for

an update request, the update request queued at least a predetermined number of

messages ahead of a currently executing database request, the work queue comprising

a combination of update requests and database requests received for a database

management system (DBMS);

computer usable program code for identifying the update request from an unexecuted

message in the work queue;

computer usable program code for sending a pretend update request to the DBMS

responsible for the database which is to be updated, the pretend update request derived

from the update request;

computer usable program code for translating the pretend update request into a

prefetch request comprising an indication that directs the DBMS to not execute an

update operation, but instead to prefetch data that will be required when the unexecuted

update request is processed; and

wherein the prefetch request has a predetermined form comprising at least an identifier

and the computer program product further comprises, computer usable program code

for retaining the predetermined form of the prefetch request;

computer usable program code for associating the identifier with the retained

predetermined form in order that the predetermined form can be identified and used in

subsequent performance of a real update request, such that the retained

predetermined form is used by the DBMS in place of parsing the real update request;

and

computer usable program code for returning the identifier in response to the pretend

update request.

26. (Previously Presented) The system of claim 25 further comprising computer usable

program code for initiating a real update request by destructively getting a message

from a queue comprising the update request, the real update request using prefetched

data.

27. (Previously Presented) The system of claim 26 further comprising computer usable

program code wherein initiating a real update request is performed by a master thread

and browsing a message is performed by one or more read ahead threads.

28. (Previously Presented) The system of claim 27 further comprising computer usable

program code wherein processing of the master thread is maintained behind the read

ahead thread by a predetermined number of messages.

29. (Previously Presented) The system of claim 25 further comprising computer usable program code for informing a memory manager that the prefetched data used may be discarded from memory subsequent to the use of the prefetched data in the processing of the real update request.

Allowable Subject Matter

3.   Claims 1,3-5, 7, 8, 19 and 21-29 are allowed.

4.   The following is an examiner's statement of reasons for allowance:

5.   None of the prior art of record, alone or in combination teaches the limitations of amended claims 1, 19, 21 and 25.

Specifically, none of these references teach: *"translating the pretend update request into a prefetch request comprising an indication that directs the DBMS to not execute an update operation, but instead to prefetch data that will be required when a corresponding real the update request is processed…retaining the predetermined form of the prefetch request; associating the identifier with the retained predetermined form in order that the predetermined form can be identified and used in subsequent performance of a real update request"* in combination with the other limitations of independent claims 1, 19, 21 and 25.

The previous 35 U.S.C. §102(b) rejection of these claims is withdrawn in view of applicant's amendment. US Patent 5,205,289 ("Palmer") teaches a system of predictive pre-fetching of update request records. However, this reference fails to teach the quoted claim limitations above especially in combination with the other elements of the independent claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to MATTHEW J. BROPHY whose telephone number is

571-270-1642. The examiner can normally be reached on Monday-Thursday 8:00AM-

5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Wei Zhen can be reached on (571) 272-3708. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJB

3/24/2009

/Wei Y Zhen/

Supervisory Patent Examiner, Art Unit 2191